

**REMARKS**

Claims 1-14 are pending in this application. By this Amendment, claims 1-13 are amended and claim 14 is added. Support for the amendments can be found, for example, in original claims 1-13. No new matter is added. Reconsideration of the application based upon the above amendments and the following remarks is respectfully requested.

**I. Rejection Under 35 U.S.C. § 102(b)**

The Office Action rejects claims 1, 5-6, and 8-9 under 35 U.S.C. §102(b) as being anticipated by Dorica et al. ("Dorica", US 5,290,454), as evidence by *KOCH Membrane Systems Website* ("KOCH"). However, Dorica does not disclose every limitation of independent claim 1. Thus, the rejection is respectfully traversed.

Independent claim 1 recites, *inter alia*, that the process water filtrate is separated from the pulp by a press located before bleaching, and is led to pre-treatment, where elongated fibres are fractionated from the process water to be treated. Independent claim 1 further recites that the filtrate that has passed the pre-treatment is led to membrane filtration, where at least part of the organic dissolved and colloidal substances included in the process water are separated from the rest of the process water. Claim 1 also recites that the membrane filtration concentrate that comprises the colloidal and dissolved substances separated from the process water, are led to further treatment.

Independent claim 6 recites, *inter alia*, a means for leading the process water filtrate, separated from the pulp being made with a press located before bleaching, to a pre-treatment means. Claim 6 also recites a pre-treatment means for fractioning the elongated fibres from the process water being treated. Independent claim 6 further recites a membrane filtration means for separating at least part of the organic dissolved and colloidal substances included in the process water from the rest of the process water. Claim 6 additionally recites a means

for leading the membrane filtration concentrate comprised of the colloidal and dissolved substances separated from the process water to further treatment.

At most, Dorica discloses a sludge-mat filtration process for the removal of total suspended solids from the effluent of a pulp mill, paper mill or woodroom (Dorica, col. 2, lines 17-22). Dorica further discloses that during the sludge-mat filtration process most of the suspended solids, colloidal material, and dissolved solids are removed and retained by the sludge mat (Dorica, abstract). In Dorica, the sludge mat having fibres and other substances suspended on it is removed from the filter, and a portion of the sludge mat is then used to form the mat for the next filtering cycle with the remaining sludge mat being purged from the system and burned or discarded (Dorica, col. 2, lines 62-64; col. 3, lines 37-40). In Dorica, it is clear that valuable fibres are separated from the water by the sludge mat. However, nowhere does Dorica disclose that these valuable fibres are separated from the sludge mat or otherwise recovered by the process. Dorica thus fails to disclose a pre-treatment means for fractioning the elongated fibres from the process water filtrate after the filtrate is separated from the pulp being made with a press, as claimed. Dorica thus fails to anticipate independent claims 1 and 6.

In addition, at most, Dorica teaches that the sludge-mat filtration process for removal of suspended solids can be used for treating a discharge stream from a screw-press in a pulp-washing stage (Dorica, col. 4, lines 46-51). In fact, the Office Action admits, at page 3, that Dorica is silent as to whether the washing stage occurs before or after a bleaching stage. Dorica thus fails to disclose that a process water filtrate is separated from the pulp to be made by a press located before bleaching, as claimed. Dorica thus fails to anticipate independent claims 1 and 6.

Dorica further teaches that a membrane filtration step may be carried out after the sludge mat filtration and sand/multimedia filtration processes (Dorica, col. 4, lines 27-41;

Fig. 5). Dorica teaches that the effluent solids from the membrane filtration process are recycled back to the pulp mill (Dorica, col. 4, lines 36-41). However, the present claims recite that the membrane filtration concentrate is removed from the process cycle by being led to further treatment. Thus, Dorica fails to disclose that the membrane filtration concentrate that comprises the colloidal and dissolved substances separated from the process water, are led to further treatment, as claimed.

Claims 5 and 8-9 depend from claims 1 and 6. Because Dorica fails to disclose the features recited in independent claims 1 and 6, dependent claims 5 and 8-9 are patentable for at least the reasons that claims 1 and 6 are patentable, as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

## **II. Rejections Under 35 U.S.C. § 102(b) or 35 U.S.C. §103**

The Office Action rejects claims 3-4 and 11-12 under 35 U.S.C. §102(b) as being anticipated by or, in the alternative, under 35 U.S.C. §103(a) as obvious over Dorica as evidence by KOCH. However, Dorica as evidence by KOCH does not disclose, teach or likewise suggest, every limitation of independent claims 3-4 and 11-12. Thus, the rejection is respectfully traversed.

Claims 3-4 and 11-12 variously depend from independent claims 1 and 6. As discussed above, Dorica fails to disclose, or likewise teach or suggest, every limitation of independent claims 1 and 6. In addition, in the presently claimed invention, the treatment steps are carried out before bleaching so that the substances to be removed are kept in colloidal form, which allows for the efficient removal of the colloidal substances. Also, in the presently claimed invention the fibres and colloidal substances are separated from the process water during different filtration stages so that the valuable fibres may be recovered

and returned to the process, and the colloidal substances can be efficiently removed from the process and sent to further treatment. However, in Dorica, the fibres and colloidal substances are both removed using the sludge mat. Thus, in Dorica, the valuable fibres are discarded along with the sludge mat and colloidal substances. Dorica thus fails to anticipate and would not have rendered obvious independent claims 1 and 6.

KOCH, cited only against dependent claims 3-4 and 11-12 to evidence retention capacities for ultrafiltration membranes, does not disclose, teach or suggest a method or arrangement for making a mechanical pulp, as claimed. KOCH thus fails to anticipate and would not have rendered obvious independent claims 1 and 6.

Claims 3-4 and 11-12 variously depend from independent claims 1 and 6. Because Dorica as evidenced by KOCH fails to disclose, teach or suggest, the features recited in independent claims 1 and 6, dependent claims 3-4 and 11-12 are patentable for at least the reasons that claims 1 and 6 are patentable, as well as for the additional features they recite.

Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

### **III. Rejections Under 35 U.S.C. § 103(a)**

Claim 10 is rejected under 35 U.S.C. § 103(a) over Dorica. Claims 2 and 13 are rejected under 35 U.S.C. § 103(a) over Dorica in view of Smook (*Handbook for Pulp & Paper Technologists*, Angus Wilde Publications Inc., 2001). The Office Action also rejects claim 7 under 35 U.S.C. § 103(a) over Dorica in view of Hurter et al. ("Hurter", U.S. Patent 6,302,997) and Smook. Applicants respectfully traverse the rejections.

Claims 2, 7, 10 and 13 variously depend from independent claims 1 and 6. As discussed above, Dorica fails to teach or suggest every limitation of independent claims 1 and 6. Dorica thus would not have rendered obvious independent claims 1 and 6 or the claims dependent therefrom.

Smook, cited only against dependent claims 2, 7 and 13 does not teach or suggest a method or arrangement for making a mechanical pulp, as claimed. Smook thus would not have rendered obvious independent claims 1 and 6.

Hurter, cited only against dependent claim 7 also does not teach or suggest a method or arrangement for making a mechanical pulp, as claimed. Hurter thus would not have rendered obvious independent claims 1 and 6.

Claims 2, 7, 10 and 13 variously depend from independent claims 1 and 6. Because Dorica, Smook, and Hurter each fail to teach or suggest, alone or in combination, the features recited in independent claims 1 and 6, dependent claims 2, 7, 10 and 13 are patentable for at least the reasons that claims 1 and 6 are patentable, as well as for the additional features they recite.

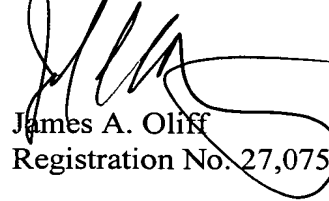
Accordingly, reconsideration and withdrawal of the rejections are respectfully requested.

### **III. Conclusion**

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of this application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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